

Phase # 1: Policy & Visioning

PURPOSE <i>Why is this phase important?</i>	<p><u>Purpose:</u> Establish the "rules of the game" within the framework of existing laws; change or make new laws to reflect current concerns.</p> <p>See example legislation:</p> <ul style="list-style-type: none">• http://www.fhwa.dot.gov/legsregs/legislat.html• http://www.fhwa.dot.gov/environment/env_sum.htm <p>To create a local or regional vision that describes the the community's future.</p>
KEY DECISION-MAKERS <i>Who makes and influences the decisions?</i>	<p><u>U.S. Congress:</u> U.S. House and Senate, informed by the expressed interests of their constituents, staff advisors, and lobbyists.</p> <p><u>Administration:</u> Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Council on Environmental Quality, other Federal agencies.</p> <p><u>State:</u> Governor, State Legislature, Department of Transportation, Air Quality Planning agency.</p> <p><u>Local:</u> Local elected officials (for the community vision)</p> <p><u>Interest Groups:</u> representing national, state, and local governments; transportation officials and professionals; public finance institutions; business/economic development interests; community planners; advocates for environment, historic/scenic/cultural preservation, biking/hiking, and safety; public health professionals; etc.</p>
KEY DECISION-MAKING DRIVERS <i>What key considerations drive the decisions?</i>	<p><u>National/state legal frameworks:</u> What are the requirements of existing transportation, environmental, and other laws?</p> <p><u>National/state data:</u> How do societal trends, environmental knowledge, and demographic projections affect all aspects of transportation, including movement of people and goods, safety, public health, and economic development?</p> <p><u>National/state goals:</u> How can transportation better meet goals set for transportation mobility, saafety and security, energy independence, climate change, transit-oriented development, economic and community development, air and water quality, land conservation, livability, and sustainability outcomes?</p> <p><u>National/state program review:</u> Are the program and funding categories in existing law adequate and responsive to the trend data and to national/state goals?</p> <p><u>Local values, goals:</u> What quality of life does the community hope to achieve over the next 30-50 years?</p>
DECISIONS MADE <i>What decisions are made?</i>	<ul style="list-style-type: none">• Determine requirements for transportation projects to receive federal or state funding• Determine apportionment of funding for specific program categories (e.g. transit, roadways, etc.)• Consensus on the local or regional vision

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PRODUCTS AND PROGRAMS

What are the final products of this phase and when are they finalized?

National legislation for surface transportation (reauthorized every 5-7 years)

- [1991 - Intermodal Surface Transportation Efficiency Act \(ISTEA\)](http://ntl.bts.gov/DOCS/ste.html) - <http://ntl.bts.gov/DOCS/ste.html>
- [1998 - Transportation Equity Act for the 21st Century \(TEA-21\)](http://www.fhwa.dot.gov/Tea21/index.htm) - <http://www.fhwa.dot.gov/Tea21/index.htm>
- [2005 - Safe, Accessible, Flexible, Efficient Transportation Equity Act - A Legacy for Users \(SAFETEA-LU\)](http://www.fhwa.dot.gov/safetealu/index.htm) - <http://www.fhwa.dot.gov/safetealu/index.htm>
- [Additional federal legislation and regulations](http://www.fhwa.dot.gov/legsregs/legislat.html) - <http://www.fhwa.dot.gov/legsregs/legislat.html>

National transportation programs, regulations, and guidance

- [Additional federal legislation and regulations](http://www.fhwa.dot.gov/legsregs/legislat.html) - <http://www.fhwa.dot.gov/legsregs/legislat.html>
- http://www.transact.org/PDFs/margins2006/STPP_guidebook_margins.pdf
- Establish core federal highway programs, such as Bridge Program, Congestion Mitigation and Air Quality Improvement Program (CMAQ), Highway Safety Improvement Program (HSIP), Interstate Maintenance (IM), National Highway System (NHS), and Surface Transportation Program (STP)
- Establish transit programs, such as Formula Grants, Rural Transit Assistance, Rail Modernization, and Job Access/Reverse Commute (JARC)

Sample state legislation for surface transportation

- [Colorado Funding Advancements for Surface Transportation and Economic Recovery \(FASTER\)](http://www.coloradodot.info/projects/faster/) - <http://www.coloradodot.info/projects/faster/>
- [Massachusetts Transportation Reform Law](http://www.mass.gov/Agov3/docs/Transpo%201pager.pdf) - <http://www.mass.gov/Agov3/docs/Transpo%201pager.pdf>
- [California Complete Streets Act of 2008](http://www.leginfo.ca.gov/pub/07-08/bill/asm/ab_1351-1400/ab_1358_bill_20080930_chaptered.pdf) - http://www.leginfo.ca.gov/pub/07-08/bill/asm/ab_1351-1400/ab_1358_bill_20080930_chaptered.pdf
- [New Jersey Transportation Trust Fund](http://www.state.nj.us/ttfa/about/legislation.shtm) - <http://www.state.nj.us/ttfa/about/legislation.shtm>
- [Michigan Public Act 51 of 1951](http://www.michigan.gov/mdot/0,1607,7-151-9620_10694---,00.html) - http://www.michigan.gov/mdot/0,1607,7-151-9620_10694---,00.html

State transportation and related programs, regulations, and guidance

- Qualify for federal funding and meet specific state needs

Local or regional level vision

- [For more information on local and regional visioning, and to see examples, see](http://shrp2visionguide.camsys.com/) <http://shrp2visionguide.camsys.com/>

CITIZEN'S ROLE

How can a citizen influence this phase of a project's life?

- Elect public officials, who then make appointments in key positions and work to create/update legislation
- Communicate ideas and concerns about existing and proposed legislation to elected officials and interest groups
- Participate in public meetings and other venues provided by State DOTs, Metropolitan Planning Organizations (MPOs) and Rural Planning Organizations (RPOs)
- Serve on local committees and boards to help influence decision-making directly

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<p>PRACTITIONER'S ROLE</p> <p><i>What are the responsibilities of the transportation professional during this phase of a project's life?</i></p>	<ul style="list-style-type: none">• Elected and appointed officials determine policy through legislation, programs, and informal direction (e.g. budgeting)• Local, state, and federal transportation staff conduct research and investigate public opinion to help provide direction to organizational policies and goals• Citizen activists and paid lobbyists indirectly influence political leadership and decision-making on specific policies and legislation through campaign contribution activities, direct meetings with officials, legal actions, and advertising campaigns that attempt to influence public opinion <p><u>Professional Disciplines:</u></p> <ul style="list-style-type: none">• Politician• Lawyer• Legal Analyst/Researcher• Transportation Planner• Community Organizer
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PROCESS EVALUATION QUESTIONS

How well does the decision-making process address the transportation context at this phase?

State Agencies

Do we have a mechanism for fostering engaged communities?

- Is the visioning/policy-making process conducted in a collaborative manner, with shared decision-making among multiple parties?
- Is meaningful and robust stakeholder outreach an integral part of the visioning/policy-making process?
- Is adequate funding allocated for stakeholder involvement in the visioning/policy-making process?

Do we have agency-wide policies in place that reflect our willingness to collaborate with communities and citizens to incorporate their values into decision-making?

Does the agency have a policy on any of the following topics:

- Environmental stewardship?
- Collaboration/stakeholder involvement?
- Complete streets?
- Transportation and land use integration?
- Safe routes to schools?
- Others?

Does our decision-making process support the implementation of our adopted policies?

What is the range of support provided for implementation?

- Are the policies acknowledged among the factors that drive the transportation decision-making process?
- Have these policies led to changes in the process followed or the standards used in decision-making?
- Does our agency provide policy or technical leadership to support implementation of these policies?
- Does our agency provide technical assistance to other agencies with implementation powers (local governments, transit agencies, etc.) with regard to implementation of these policies?
- Is there a clear link between the adopted policies and the project selection/prioritization process or the funding allocation process?

Do we have policies in place that state or imply that the agency's transportation mission/values are paramount to community values?

- Is this explicitly stated up-front during the visioning/policy-making process?
- Are the constraints these policies impose clear to citizens and other stakeholders in the decision-making process?
- Does our agency have a conflict resolution policy that includes a commitment to resolving differences with partners and stakeholders?

Phase # 1: Policy & Visioning

CONTEXT DEFINITION

QUESTIONS

What types of questions should be asked in defining the transportation context at this phase?

Are there local/regional plans or policies that will help us understand the community's values?

What do these plans and policies tell us about:

- Development patterns?
- Transportation systems and services?
- Economic development/employment sectors?
- Environmental and recreational resources?
- Energy and greenhouse gas emissions?
- Housing stock, type, and location?
- Educational facilities, type, and location?
- Historic districts and structures?
- Aesthetic features?

What do we know about community values from previous planning or project development initiatives in the area?

- What issues and/or concerns did the community raise?
- What issues and/or concerns did our agency have, and how were these resolved?
- Was there consensus between the agency and community members regarding the resolution of previous issues?

What gaps in our understanding of community values will need to be filled through a collaborative stakeholder involvement process?

Which aspects of quality-of-life represent gaps in our understanding of community values:

- Built environment and mobility?
- Natural environment and resources?
- Economy?
- Housing and education?
- Social and cultural attributes?
- Public health and safety?

Phase # 2: Long-range Planning & Programming

PURPOSE <i>Why is this phase important?</i>	<p><u>Purpose of Planning:</u> Identify transportation needs. Develop a minimum 20-year, fiscally-constrained long-range plan updated at least every four years that includes descriptions of the latest demographic and travel (modeling) data assumptions; projects and systems-level costs; financial plan; air quality conformity finding and report (in non-attainment areas); and related elements.</p> <p><u>Purpose of Programming:</u> Develop fiscally-constrained multimodal transportation funding priorities for regionally significant public and private projects in a four-year program updated at least every four years (in many states, updates are conducted every year). Additional years beyond the four-year, federally-recognized time horizon are allowed but are considered “illustrative.” In addition to identifying priorities for transportation projects, each project should identify the problem to be solved as well as a “purpose and need.”</p>
KEY DECISION-MAKERS <i>Who makes and influences the decisions?</i>	<p>For Planning:</p> <p><u>Metropolitan Planning Organizations (MPOs):</u> transportation policy-making organizations made up of representatives from local government and transportation authorities. (Transportation Advisory Committees made up of local elected officials and Transportation Technical Committee made up of professional technical staff from different local governments) There is typically one MPO for each urbanized area with over 50,000 population.</p> <p>MPOs work to create Long Range Plans in concert with state DOTs, FHWA/FTA, Rural Planning Organizations (RPOs) and State Air Quality Agency (in non-attainment areas). For environmental mitigation discussions, representatives from federal, state, and Tribal lands authorities including environmental regulatory agencies are included. The MPOs invite comments on plans from citizens, freight, private and public transportation providers, pedestrians and cyclists, representatives of the disabled, and other interested parties.</p> <p>For Programming:</p> <p><u>Metropolitan Planning Organizations (MPOs):</u> (Transportation Advisory Committees made up of local elected officials and Transportation Technical Committee made up of professional technical staff from different local governments); some states and rural regions have state-sponsored agencies called Rural Planning Organizations that fulfill some of the same functions as their metropolitan counterparts</p> <p><u>Governor and designee,</u> typically the secretary of the State Department of Transportation.</p> <p><u>FHWA/FTA:</u> Large MPOs (over 200,000 in population) have their TIP development and other planning processes subject to four-year reviews by FHWA/FTA.</p> <p><u>Public Transportation Providers and Operations,</u> specifically to develop project cost estimates for public transportation improvements.</p> <p><u>State Air Quality Agency,</u> approve long range plans and TIPs for compliance with the Clean Air Act in air quality non-attainment areas.</p>

Phase # 2: Long-range Planning & Programming

KEY DECISION-MAKING DRIVERS

What key considerations drive the decisions?

For Planning:

- What are the transportation deficiencies?
- What funding will be available over the life of the plan to support transportation improvements?
- [What is the community vision? What are the community's quality of life values?](#)
- Where will future growth and development occur? What type of development is anticipated in each sub-area of the community?
- How proactive is the agency's public engagement process? Does it go beyond the minimums established by federal law?
- Is the MPO / RPO making an effort to develop and acquire the latest available data?
- Do state and local transportation agencies responsible for implementing transportation projects rely on the long-range transportation plans of the MPO / RPO?
- Is the MPO over 200,000 at the last US decennial census? If so, special requirements and funding apportionment will apply to metropolitan planning organizations known as Transportation Management Authorities.
- [Does the MPO specifically adhere to the seven planning factors \(http://www.fhwa.dot.gov/Tea21/factsheets/metropln.htm\) as a set of goals for the MPO? If not, does the MPO clearly establish their own goals, tie their priorities back to those goals, and u](http://www.fhwa.dot.gov/Tea21/factsheets/metropln.htm)
- What is the size of the MPO / RPO staff (full-time employees) and their roles and responsibilities within the organization? Is there a dedicated public involvement officer (or similar titled position) within the agency?
- Do state general statutes specifically define and / or authorize MPOs / RPOs to carry out certain responsibilities, or imbue them with additional authorities not covered by federal law? What is the legal and day-to-day working relationship between the MPO / RPO and state department of transportation, and how are disputes resolved?

For Programming:

- What funding is available (federal, state, local revenue sources) MPO during the funding cycle for the TIP?
- What is the role of appointed officials on policy and technical boards for each organization? How are priorities determined, and is there a substantive role for the public in determining priority factors and/or weights?
- How does the MPO demonstrate air quality conformity; engage the public in the development of its required, annual work program; and what are provisions for public engagement during the quadrennial certification review process required for all MPOs over 200,000 population (smaller MPOs go through an internal, self-certification process)? The STIP and long-range transportation plan must be in conformity with national air quality regulations for projects to advance.

Phase # 2: Long-range Planning & Programming	
<div>DECISIONS MADE</div> <div>What decisions are made?</div>	<div>For Planning:</div> <ul style="list-style-type: none">• Determine transportation deficiencies• Determine financial assumptions• Identify strategies to address deficiencies• Determine preferred planning scenario• Adopted plan that meets federal, state and MPO requirements <div>For Programming:</div> <ul style="list-style-type: none">• Determine evaluation criteria and methodology for evaluating transportation projects for the state department of transportation and metropolitan and rural planning (if present) organizations. Each state and MPO develops its own process for allocating funds to program categories and selecting projects. Therefore, the relationship between the DOT, FHWA district (state) office, and MPO within each state is crucial to understanding how projects are selected from the TIP for inclusion in the STIP, and how they are advanced.• Identify funding sources for transportation projects. The policy direction is derived from long range plan development and national funding priorities.

Phase # 2: Long-range Planning & Programming

PRODUCTS AND PROGRAMS

What are the final products of this phase and when are they finalized?

For Planning:

- Fiscally-Constrained Metropolitan Transportation Plan. The MTP includes sections on financing capacity, air quality conformity (in non-attainment areas), public engagement, and multi-modal project descriptions including system-level costs. It includes some level of integration or coordination with current and projected local land use plans, and may also include coordination with state and local conservation agencies to create a conservation element, safety planning element, and transportation control measures (in non-attainment areas)
- Congestion Management Process (over 200,000 population)
- Air Quality Conformity Finding/Report (in non-attainment areas)
- Public Participation Plan, which includes outreach mechanisms to Title VI, disabled, and Limited English Proficiency populations
- Federal Certification (over 200,000 population) or Self Certification for planning processes
- Planning or Unified Planning Work Program

For Programming:

- A Transportation Improvement Program (TIP) that includes a description of project phasing (e.g., planning, right-of-way acquisition, design, and construction) for roadway and public transportation projects (and typically other modes and programs). Maps of projects may or may not be included in the documentation.
- List of major projects implemented from the last TIP
- Project prioritization methodology
- Financial Plan: funding sources for each project
- An air quality conformity finding (in non-attainment areas)
- Possibly also Feasibility Studies and Corridor Management Plans
- State Transportation Improvement Program (STIP), which is derived from the Transportation Improvement Programs (TIPs) created by Metropolitan Planning Organizations in areas where they exist combined with rural project priorities developed by the State DOT.

Phase # 2: Long-range Planning & Programming

CITIZEN'S ROLE

How can a citizen influence this phase of a project's life?

For Planning:

- Participation in public participation process to support development of the LRTP. Populations that have been traditionally underserved by the planning process are considered with a special emphasis in MPOs.
- Direct advocacy with policy level decision makers
- Submitting public comments. Open public meeting laws, which vary from state to state, apply to MPOs as well, since their meetings at the policy level consist of publicly elected officials. These meetings generally offer a direct channel to the decision-making processes at MPOs, the degree of which is dependent on the particular policy of the MPO. At least one, open public meeting to provide reasonable opportunity to comment on the draft TIP by citizens, freight, private and public transportation providers, pedestrians and cyclists, representatives of the disabled, and other interested parties.

For Programming:

- Participation in meetings/public hearings
- Direct advocacy with policy level decision makers
- Submitting public comments. Open public meeting to provide reasonable opportunity to comment on the draft TIP by citizens, freight, private and public transportation providers, pedestrians and cyclists, representatives of the disabled, and other interested parties. Having citizen involvement in the TIP/STIP process is critical because these plans are what determine which transportation projects get done first. Citizens can also call their local city or county planning department to find out how to provide input to their prioritization process (before the city submits their priorities to become part of the TIP/STIP).
- In air quality conformity non-attainment areas, MPOs are required to have one public hearing to review the draft TIP. The TIP must be made accessible to the maximum extent possible, with electronic media and the internet being mentioned specifically (Part 23 450.324 (b)).

Phase # 2: Long-range Planning & Programming

PRACTITIONER'S ROLE

What are the responsibilities of the transportation professional during this phase of a project's life?

For Planning:

- The metropolitan planning organization is inherently a diverse organization devoted largely to planning future transportation systems. MPOs staff work with transit planning staff that deal with the day-to-day planning and maintenance of those systems, local government staff responsible for transportation, land use and locally owned or managed modes (roads, bike paths, etc)
- Prepare and/or coordinate technical analyses of current and future information required to provide an integrated planning foundation for LRTP decisions
- Complete air quality conformity analysis (in non-attainment areas)

Professional Disciplines for Planning:

- Travel Demand Modeler
- Data Collection Technician
- GIS/Spatial Analyst
- Administrative Support
- Bicycle/Pedestrian Planner
- Grant Writer (more likely in a regional council)

Additional Disciplines (more likely to be involved in larger MPOs/TMAs):

- Transit Planner
- Public Involvement Specialist
- Land Use Planner
- Economist
- Environmental Scientist
- Transportation Engineer

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For Programming:

- TIPs, both State and Metropolitan versions, are typically created through an intricate network of programming and planning staff, all of whom take their directives from appointed and popularly elected officials.
- The role of the practitioner is to mediate disputes, disclose financial obligations, manage the program to accommodate shifting priorities, and ensure adherence to federal and state funding requirements.
- Create candidate list of projects including cost estimates and realistic phasing schedules
- Develop financial projections by funding source
- Establish or recommend project prioritization process. Practitioners typically establish process for more routine programs (bridge replacement, pavement rehabilitation, safety). They usually recommend processes for more policy driven priorities (road expansion, transit capital)

Professional Disciplines for Programming:

- Financial Analyst
- Auditors
- Project Cost Estimators (Engineers)
- Transit Planner
- GIS/Spatial Analyst
- Administrative Support
- Bicycle/Pedestrian Planner
- Public Involvement Specialist
- Transportation Engineer
- Land Use Planner
- Environmental Scientist
- Economist
- Grant Writer

PROCESS EVALUATION QUESTIONS

How well does the decision-making process address the transportation context at this phase?

Is there community-wide consensus on the identified local, regional plans, or policies that will be used to support context definition during Planning?

Do the local community plans consider the impacts that their plans and decisions have on mobility, development and natural resources throughout the region and state?

Are community plans integrated so that they reflect a consistent understanding of community values?

What specific mechanisms or elements have been incorporated into collaborative stakeholder involvement process to address inconsistencies in local plans and/or gaps in understanding of community equality of life values?

Phase # 2: Long-range Planning & Programming

CONTEXT DEFINITION QUESTIONS

What types of questions should be asked in defining the transportation context at this phase?

Built Environment & Mobility

How would you characterize the general character of the community (urban, suburban, small town, rural)?

What types of land uses are present (residential, commercial, industrial, institutional, agricultural)?

Is the community growing, stable or declining in population?

- Is the public infrastructure capable of supporting the degree of development, both existing and planned?

Is the community primarily auto dependent or is it currently multi-modal?

- Does the community provide infrastructure for non-auto modes (transit, sidewalks, bike paths)?
- Do the majority of residents have non-auto alternatives to access employment, shopping and recreation opportunities?
- Does the current development and infrastructure pattern accommodate or encourage walking/bicycling?
- Does the current development and street pattern encourage and support transit use?
- Does the community have a Complete Streets policy?

Is the area currently investing in operational improvements to address access and mobility problems?

Are there natural or man-made physical features that are defining elements of the community's character or identify?

- Is the scale of transportation system in keeping with the character of the communities/sub-communities through which they pass?

Natural Environment and Resource

Do natural features contribute to the character and aesthetics of the community?

Is the scale of the transportation system in keeping with the surrounding natural features of the areas through which they pass?

Are there significant protected natural resources within the planning area?

Is there a protected or aesthetically valuable vista or viewshed in the planning area?

Phase # 2: Long-range Planning & Programming

Economy

Where are the primary employment locations in the area?

- Where do the potential workers live in relationship to these employment centers?
- Is there a large amount of in-commuting or out-commuting in the community?
- Are there locations within the area that are already targeted or good candidates for redevelopment into employment centers?
- How does the transportation system support or hinder job creation and retention for the area overall? For sub-areas?

Where is commercial activity located located/desired?

- What is the character of primary commercial areas (for example, town center, neighborhood commercial, strip commercial, mall/shopping center)?
- How does the transportation system support or hinder commercial activity for each primary commercial location?

Is tourism a major factor of the area economy?

- If yes, why are visitors attracted to the area? Does the transportation system enhance or detract from the attractiveness of these characteristics?

Housing

Where are the primary residential locations in the area?

- How close are these locations to daily commercial services? Can residents walk or bike to these frequently needed commercial services?
- Do residents of each of these areas have reasonable auto access to appropriate employment centers? Do they have transit or other non-auto access?

What sub-areas have been identified or targeted for new residential development?

- Does the transportation system support or hinder provision of a broad range of transportation choices to new residential development?
- Is the area actively seeking or implementing in-fill development? Are multi-modal options available or planned for these potential in-fill development sites?

Are there sub-areas where housing prices and/or property tax values are impacted by the location, character or type of transportation infrastructure or services available?

Education

What percentage of children can walk or bike to school?

Do transportation agencies have an on-going relationship with school boards or administration staff determining future school sites?

Are roads and streets adjacent to schools safe for walking and biking?

Do roads and streets adjacent to schools provide safe access for cars?

If there are post-high school schools in the area, are there multi-modal options available?

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Social and Cultural

Are there regional or community events, arts, music and/or other cultural opportunities that engage residents and attract visitors to the area?

- Does the transportation system support or hinder access to these opportunities?
- Are there multi-modal options available to access these opportunities?

Are there ethnic, cultural or religious groups within the community who have special needs that should be addressed or considered during transportation planning?

Are there cultural or historic resources identified in the community?

- If yes, is the scale and type of adjacent transportation system in keeping with the character of these resources?

Are transportation access and mobility equitably provided throughout the area?

Does the area have formal or adopted aesthetic guidelines or regulations?

Public Health and Safety

Are transportation facilities safe and accessible to all residents, including for people with disabilities?

Are there crime issues associated with any transportation facility or service?

Is the area designated as a non-attainment area?

- What transportation strategies are in place or could be implemented to improve air quality?

Is there transit service to hospitals and primary health care facilities in the area?

Phase # 3: Environmental Studies and Preliminary Design

PURPOSE <i>Why is this phase important?</i>	<p><u>Purpose:</u> Identify and evaluate a full range of transportation solutions that fulfill the intended purpose and need of a transportation project (often developed during Planning & Programming Phases 2 & 3). Evaluate the potential human and natural environmental effects from a proposed transportation project to ensure that negative effects are avoided and/or minimized to the extent practicable as well as attempt to mitigate any negative effects that can not be avoided or minimized.</p> <p>The National Environmental Policy Act (http://ceq.hss.doe.gov/Nepa/regs/nepa/nepaeqia.htm and http://www.epa.gov/Compliance/resources/policies/nepa/index.html) is the key legislation that prescribes the decision-making process for environmental studies. NEPA only applies to federally funded projects. Some state DOTs have their own State Environmental Policy Act (For example, Washington: http://www.ecy.wa.gov/programs/sea/sepa/e-review.html, North Carolina: http://h2o.enr.state.nc.us/sepa/). For a summary of additional environmental laws that may apply, see http://www.fhwa.dot.gov/environment/env_sum.htm</p>
KEY DECISION-MAKERS <i>Who makes and influences the decisions?</i>	<p><u>Federal Highway Administration:</u> For Federally Funded Projects</p> <p><u>State Department of Transportation:</u> For both Federally and state funded projects.</p> <p><u>Local Governments including Metropolitan Planning Organizations and Rural or Regional Planning Organizations</u></p> <p><u>Army Corps of Engineers (part of the Department of Defense)</u></p> <p><u>U.S. Fish and Wildlife Agency (part of the Department of Interior)</u></p> <p><u>Environmental Protection Agency</u></p> <p><u>Numerous state regulatory agencies (particularly the state Division of Water Quality)</u></p> <p><u>U.S. Coast Guard (Navigable waters)</u></p> <p><u>Federal Energy Regulatory Commission (Regulated Hydraulic Power Plants)</u></p> <p><u>National Forest Service (If located in National Park Lands)</u></p> <p><u>The National Register of Historic Places (including the local State Historic Preservation Office)</u></p> <p><u>For a full list of potential federal agencies, see http://www.nepa.gov/nepa/regs/agency/agencies.cfm</u></p>
KEY DECISION-MAKING DRIVERS <i>What key considerations drive the decisions?</i>	<ul style="list-style-type: none"> • What elements of the natural (wildlife, plant life, water bodies, ecosystems such as wetlands and forests) and human (low income or minority populations, community resources, historic structures, prime farmland, social cohesion) environment might potentially be affected by the project? • What are the mobility goals of the project in terms of projected improvement in vehicle capacity or level-of-service, enhancement of bicycle/pedestrian facilities? • What are the engineering design criteria relevant to the project? Which design elements can be flexible if necessary to reduce potential impacts to the human or natural environment? • Which federal and state laws and regulations apply to this project (e.g. is there a presence of wetlands, threatened/endangered species, impaired waterways, protected lands, historic structures)? • Is this project required to undergo Indirect and Cumulative Impacts analysis in this jurisdiction? What kind of induced growth can be expected as a result of the project? • Have there been any public comments on the project? • How do the budget realities affect which alternatives are viable? • How does this project fit into the priorities set forth as part of planning and programming?

Phase # 3: Environmental Studies and Preliminary Design

DECISIONS MADE <i>What decisions are made?</i>	<ul style="list-style-type: none">● FHWA and state DOT decide which type of environmental study to pursue (http://www.fhwa.dot.gov/planning/citizen/)● NEPA includes several key steps in the decision-making process<ol style="list-style-type: none">1. Final Purpose and Need2. Selection of a Range of feasible and reasonable alternatives3. Selection of a preferred alternative, which is based upon environmental effects of the proposed alternatives and evaluation criteria4. Agreement on avoidance, minimization and/or mitigation options for the preferred alternative● This information establishes the final scope and initial design criteria (design speed, traffic volume, etc) for the project
PRODUCTS AND PROGRAMS <i>What are the final products of this phase and when are they finalized?</i>	<ul style="list-style-type: none">● Environmental Reports documenting the decision-making process as well as technical studies that support the decisions. Different types of environmental reports are required depending upon the type of project. http://ceq.hss.doe.gov/nepa/Citizens_Guide_Dec07.pdf<ul style="list-style-type: none">○ Final purpose and need○ Evaluation Criteria○ Reasonable range of alternatives○ Documented environmental effects of the proposed alternatives○ Selected alternative○ Preliminary conceptual plans○ Conceptual Mitigation plans● Administrative public record of all coordination and meetings● Final location decision in the form of a Record of Decision (ROD), Finding of No Significant Impact (FONSI), or completed categorical exclusion (CE)● Preliminary design plans for the preferred alternative
CITIZEN'S ROLE <i>How can a citizen influence this phase of a project's life?</i>	<ul style="list-style-type: none">● Decisions are made with input from the public as well as the input from federal, state, and local agencies. Environmental data and information is collected based on preliminary design concepts and this information is presented to key stakeholders at meetings. In addition, the public is involved at key decision-making points (selection of a reasonable and feasible range of alternatives, selection of preferred alternative and final preliminary design) in the process through public outreach strategies including meetings, websites, focus groups, etc.● Minor projects such as categorical exclusions may not have public meetings. In that case citizens can review local transportation improvement programs and request a public meeting for any project. If a formal request is made to a state DOT then most DOTs will hold a public meeting (public involvement procedures vary by state).

Phase # 3: Environmental Studies and Preliminary Design

PRACTITIONER'S ROLE <i>What are the responsibilities of the transportation professional during this phase of a project's life?</i>	<u>Professional Disciplines:</u> <ul style="list-style-type: none">• Natural and human environmental scientists collect and analyze data for comparing different alternatives• Engineers develop conceptual design plans for different alternatives and prepare cost estimates• Project Managers oversee the decision-making process including coordination with federal and state regulatory agencies. They also make key decisions about public involvement strategies and which disciplines need to be consulted as part of the decision-making process.• Right of way agents prepare preliminary right of way estimates to compare different alternatives.• Land Use Planners provide data and insights on current and projected growth and development within the study area• GIS/Spatial Analyst provides data and analyses to support decision making• Public Engagement Specialists prepare public and stakeholder involvement plans and facilitate their implementation
PROCESS EVALUATION QUESTIONS <i>How well does the decision-making process address the transportation context at this phase?</i>	<p>Is there community-wide consensus on the long-range transportation plan and other local plans/policies that will be used to support context definition during this phase?</p> <p>What opportunities are available for meaningful citizen involvement as part of the environmental study and preliminary design process?</p> <p>What opportunities are available for practitioner collaboration, among practitioners with different skills and areas of interest, as part of the environmental study and preliminary design process?</p> <p>What specific mechanisms have been incorporated into the environmental study and preliminary design process to ensure that community context is considered as a vital part of the process?</p>

Phase # 3: Environmental Studies and Preliminary Design

CONTEXT DEFINITION

QUESTIONS

What types of questions should be asked in defining the transportation context at this phase?

The questions listed under the first two phases of the life of a transportation project should allow practitioners to develop a robust understanding of the transportation context within a region. The policies, plans, and programs developed in these first phases should serve as a valuable resource to the practitioners involved in later phases of a transportation project.

- Do you have a clear understanding of the community context and values based on participation in an interdisciplinary team or review of existing information collected as a part of long range planning and/or environmental studies and preliminary design phases of the project? If not, then review information and materials available in the project file and/or meet with transportation staff or consultants to develop this understanding.
- Are there commitments that have been made to the community or partnering agencies that must be honored as a part of Environmental Studies or Preliminary Design?

The Environmental Studies process has been created to identify, document and disclose the broad range of impacts on the community and natural context. The questions to be asked during this phase are, therefore, intimately tied to the specifics of an individual project. Many states and consultants have developed Context Definition Tools specifically designed for use during Environmental Studies that provide a broad range of screening and context definition of questions. Information about using these tools is included in Chapter 2 and in the Context Definition Tools resource table. In adapting these tools the most critical issue is to ensure that the questions address all of the quality of life elements shown in the Quality of Life Tree.

- [Link to Chapter 2](#)
- [Link to Context Definition Tools table](#)
- [Link to Quality of Life Tree](#)

Understanding context and full range of community values are also essential to **Preliminary and Final Design**, but often practitioners in these disciplines are not as aware of the critical role they can play improving and enhancing a community's quality of life through their design choices. Practitioners in these phases should also use the **Context Definition Tools** resources to help identify project specific context definition questions for their phases. The Preliminary Design questions provided below represent only a starting point for practitioners. Actual questions should be developed based on the context of the project with the goal of creating a transportation project design that seamlessly fits with the community's values and enhances the community's overall quality of life to the greatest extent possible within the project constraints.

Built Environment & Mobility

- What type, density and access of the development that current exists along the project?
- Are there non-auto modes currently operating in the corridor (transit, bikes, sidewalks)? Does the project currently include improvements to accommodate existing non-auto modes and/or addition of new non-auto modes (for example, new or improved bike lanes, bus pull-outs, bus shelters, new or improved sidewalks or curb cuts)?
- Are there man-made features along the project must be avoided or impacts minimized (for example, historic structures, parks) ? Are there man-made features that are of special significance to the community that should be avoided or impacts minimized?
- Have the citizens or community expressed preferences for aesthetic features and/or landscaping to be incorporated into the Final Design? If these cannot be accommodated have you or the designated transportation representative communicated this to the citizens/community with a clear explanation of it cannot be accommodated?

Natural Environment and Resources

- Are there natural features along the project must be avoided or impacts minimized (for example wetlands, endangered species)? Are there natural features that are of special significance to the community that should be avoided or impacts minimized (for example a significant tree canopy)?
- Is there a protected or aesthetically valuable vista or viewshed along the project?

Phase # 3: Environmental Studies and Preliminary Design

Economy

- Does the Preliminary Design proposal negatively impact access to businesses along the project? Is there anything that can be done during Final Design to address this impact?
- Are there traffic generators adjacent or near the project that will draw one-time or occasional (for example hospitals, tourist attractions) users into the area? Will the proposed traffic patterns and/or proposed signage help these users navigate the area safely?

Housing

- Does the Preliminary Design proposal negatively impact access to residential developments or individual homes along the project? Is there anything that can be done during Final Design to address this impact?
- Can residents safely access near-by community services (schools, libraries, shopping)? If not is there anything that can be done during Preliminary Design to improve safety of pedestrian and bicycle access to these community services?

Education

- Are there any schools located adjacent to or nearby the proposed project? Do children safely walk or bike to these schools? If not is there anything that can be done during Preliminary Design to improve their safety?
- If there are schools located adjacent to or nearby the proposed project, does the proposed project negatively impact access to or traffic circulation around these schools, particularly during peak pick-up and drop-off hours? Is there anything that can be done during Preliminary Design to address this impact and/or enhance access and circulation?

Social/Cultural

- Are there any facilities where social/cultural events are held adjacent to or nearby the proposed project (for example, senior centers, civic centers, pavilions)? Does the proposed project negatively impact access to or circulation around these facilities, particularly during peak hours or special events? Is there anything that can be done during Preliminary Design to address this impact and/or enhance access and circulation?

Public Health & Safety

- Can the Preliminary Design enhance overall safety and accessibility for all residents, including people with disabilities?
- Can the Preliminary Design provide incorporate features that will protect users from criminal acts (for example, enhanced lighting)?

Phase # 4: Final Design & Right-of-Way

PURPOSE

Why is this phase important?

Purpose for Final Design: Provide engineering drawings, calculations, plans, specifications, construction cost estimate, and contract documents for a specific transportation project. Final design provides details to the construction crew as to the precise location of the roadway, fill and elevation, number of lanes, traffic signals, lane markings, etc. All of the details necessary to put the project on the ground.

Purpose for ROW: Secure real estate with purchase or agreement (including both temporary and permanent easements) for the purpose of constructing or widening the proposed roadway. Property owners whose land is physically taken for the purposes of a transportation project must be compensated the fair market value of the land (eminent domain). Additional agreements may be necessary for temporary access to an owner's property for construction and/or movement of utilities.

KEY DECISION-MAKERS

Who makes and influences the decisions?

For Final Design:

State DOT (Agency in-house design review staff)

FHWA

Planning and environmental staff via commitments from the environmental studies

Engineer/designer of record

For ROW:

State DOT right-of-way agents

Engineer/designer of record

Utility companies

Other owners of transportation infrastructure (may include railroads, local governments, etc.)

Phase # 4: Final Design & Right-of-Way

KEY DECISION-MAKING DRIVERS

What key considerations drive the decisions?

For Final Design:

- Data, analyses and decisions documented from Environmental Studies and Preliminary Design regarding the overall scope, general design parameters, protected resources, community context, vision and values. This includes commitments made to the community, federal, state and local agencies, etc during these earlier phases.
- Design References
- A Policy on Geometric Design of Highways and Streets ("Green Book"), published by the American Association of State Highway Transportation Professionals (AASHTO)
- Manual on Uniform Traffic Control Devices (MUTCD) defines the standards used by road managers nationwide to install and maintain traffic control devices on all streets and highways. Published by FHWA.
- 3-R (resurfacing,, restoration or rehabilitation) Guidelines
- Structures design manual/ codes
- Established design criteria
- Design Speed
- Functional Classification (e.g. freeway, thoroughfare, collector, local)
- Traffic Volume
- Environment - Human & Natural
- Project Budget / Construction Cost

For ROW

- What is the fair market value of the land affected?
- What is the appraisal value of the land affected?
- How significant is the right-of-way incursion on the property? Is it necessary to take" the entire property? Have appropriate eminent domain procedures been followed with the relevant local jurisdictions?
- [Is the project federally funded? If so, how do the regulations of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 apply to this property? \(see http://www.fhwa.dot.gov/realestate/ua/index.htm\).](http://www.fhwa.dot.gov/realestate/ua/index.htm)
- What local and state regulations are in place governing mediation and arbitration to come to a settlement with property owners?
- What are the criteria for placement of secondary items?
 - Utilities
 - Landscaping

Phase # 4: Final Design & Right-of-Way

DECISIONS MADE

What decisions are made?

For Final Design:

- Final design decisions needed to translate the preliminary design, community and environmental information into a constructable project.
- Certify and submit final design plans
- Respond to comments made during review process

For ROW:

- Determine right-of-way limits
- Negotiate contracts to purchase or secure easements for properties needed to construct the project.
- Coordinate with utilities on placement
- Create agreements with railroads as necessary
- Create agreements with local governments as necessary

PRODUCTS AND PROGRAMS

What are the final products of this phase and when are they finalized?

For Final Design:

- Calculations
- Construction Drawings/ plan set
- Construction permits
- Engineer's Estimate
- Specifications
- Special Provisions
- Bidding Proposal
- Environmental permits
- Final right of way plans

For ROW:

- Right-of-Way Plans
- Recordable property plat
- Recordable deed descriptions
- Agreements with
 - Utilities
 - Local governments
 - Railroads

Phase # 4: Final Design & Right-of-Way

CITIZEN'S ROLE

How can a citizen influence this phase of a project's life?

For Final Design:

- As appropriate for the scope and type of project, provide input into the final decisions regarding the "look and feel" of the project, particularly aesthetics and landscaping features

For ROW:

- None as a general citizen. As an individual property owner affected by the project, a citizen can choose to accept the settlement or proceed with an injunction/lawsuit to challenge the proposed settlement

PRACTITIONER'S ROLE

What are the responsibilities of the transportation professional during this phase of a project's life?

For Final Design:

- Incorporate the commitments made in during Phases 2 and 3 (Planning and Environmental Studies and Preliminary Design)
- Evaluate the design with a V-E approach
- Seek input and concurrence from community as appropriate for the scope and type of project

Professional Disciplines for Final Design:

- Engineers
- Project Managers

For ROW:

Professional Disciplines for ROW:

- Right-of-way Agents
- Attorneys
- Mediators/negotiators

PROCESS EVALUATION QUESTIONS

Does the final design and right-of-way acquisition process follow-through on commitments made during earlier phases, including those reached through collaboration with citizens and other practitioners?

Phase # 4: Final Design & Right-of-Way

CONTEXT DEFINITION

QUESTIONS

What types of questions should be asked in defining the transportation context at this phase?

Understanding context and full range of community values are essential Final Design, but often practitioners in this phase is not as aware of the critical role they can play improving and enhancing a community's quality of life through their design choices. Practitioners in these phases should use the Context Definition Tools resources to help identify project specific context definition questions for Final Design. The Final Design questions provided below represent only a starting point for practitioners. Actual questions should be developed based on the context of the project with the goal of creating a transportation project final design that seamlessly fits with the community's values and enhances the community's overall quality of life to the greatest extent possible within the project constraints.

- Do you have a clear understanding of the community context and values based on participation in an interdisciplinary team or review of existing information collected as a part of long range planning and/or environmental studies and Final Design phases of the project? If not, then review information and materials available in the project file and/or meet with transportation staff or consultant to develop this understanding.

Built Environment & Mobility

- What type, density and access of the development that current exists along the project?
- Are there non-auto modes currently operating in the corridor (transit, bikes, sidewalks)? Does the project currently include improvements to accommodate existing non-auto modes and/or addition of new non-auto modes (for example, new or improved bike lanes, bus pull-outs, bus shelters, new or improved sidewalks or curb cuts)?
- Are there man-made features along the project must be avoided or impacts minimized (for example, historic structures, parks) ? Are there man-made features that are of special significance to the community that should be avoided or impacts minimized?
- Have the citizens or community expressed preferences for aesthetic features and/or landscaping to be incorporated into the Final Design? If these cannot be accommodated have you or the designated transportation representative communicated this to the citizens/community with a clear explanation of it cannot be accommodated?

Natural Environment and Resources

- Are there natural features along the project must be avoided or impacts minimized (for example wetlands, endangered species)? Are there natural features that are of special significance to the community that should be avoided or impacts minimized (for example a significant tree canopy)?
- Is there a protected or aesthetically valuable vista or viewshed along the project?

Economy

- Does the Final Design proposal negatively impact access to businesses along the project? Is there anything that can be done during Final Design to address this impact?
- Are there traffic generators adjacent or near the project that will draw one-time or occasional (for example hospitals, tourist attractions) users into the area? Will the proposed traffic patterns and/or proposed signage help these users navigate the area safely?

Housing

- Does the Final Design proposal negatively impact access to residential developments or individual homes along the project? Is there anything that can be done during Final Design to address this impact?
- Can residents safely access near-by community services (schools, libraries, shopping)? If not is there anything that can be done during Final Design to improve safety of pedestrian and bicycle access to these community services?

Phase # 4: Final Design & Right-of-Way

Education

- Are there any schools located adjacent to or nearby the proposed project? Do children safely walk or bike to these schools? If not is there anything that can be done during Final Design to improve their safety?
- If there are schools located adjacent to or nearby the proposed project, does the proposed project negatively impact access to or traffic circulation around these schools, particularly during peak pick-up and drop-off hours? Is there anything that can be done during Final Design to address this impact and/or enhance access and circulation?

Social/Cultural

- Are there any facilities where social/cultural events are held adjacent to or nearby the proposed project (for example, senior centers, civic centers, pavilions)? Does the proposed project negatively impact access to or circulation around these facilities, particularly during peak hours or special events? Is there anything that can be done during Final Design to address this impact and/or enhance access and circulation?

Public Health & Safety

- Can the Final Design enhance overall safety and accessibility for all residents, including people with disabilities?
- Can the Final Design provide incorporate features that will protect users from criminal acts (for example, enhanced lighting)?

Phase # 5: Construction	
PURPOSE <i>Why is this phase important?</i>	Purpose: Implement projects included in the approved transportation improvement program. Facilitate FHWA's evaluation of the State's use of federal-aid funds to assure effective quality controls and to verify that the project is completed in accordance with the plans, specifications, special provisions, contracting requirements, and environmental commitments.
KEY DECISION-MAKERS <i>Who makes and influences the decisions?</i>	FHWA: Establishes policy for the use of federal funds State transportation departments (DOTs) Local DOT or public works Departments
KEY DECISION-MAKING DRIVERS <i>What key considerations drive the decisions?</i>	<u>What are the project estimated budgets?</u> <u>When can the project be advertised based on available funding and priorities?</u> <u>What commitments have been made in planning or, more commonly, as part of environmental studies, final design, and right-of-way negotiations?</u> <u>What is the construction project schedule?</u> <u>Who are the construction phase stakeholders?</u> <u>What are the affects of the construction project on stakeholders?</u> <ul style="list-style-type: none"> • What phases need to be started (and ground needs to be open), when? • How does the schedule affect the environment and stakeholders, including community utilities? <u>How are environmental commitments communicated among the project management team and to the contractor?</u> <ul style="list-style-type: none"> • To what extent are they included in the specifications and contract documentation?
DECISIONS MADE <i>What decisions are made?</i>	<ul style="list-style-type: none"> • Contract Specifications are finalized • Construction project is advertised for Contractors to bid • Best value is established (i.e. low bid, or technical capability+low price (A+Bx)) • Project is awarded • On-site adjustments needed for translating final design to a constructed project
PRODUCTS AND PROGRAMS <i>What are the final products of this phase and when are they finalized?</i>	<ul style="list-style-type: none"> • Bid package • Awarded contract • Completed project • Environmental and community commitments are signed-off by Project Manager
CITIZEN'S ROLE <i>How can a citizen influence this phase of a project's life?</i>	<ul style="list-style-type: none"> • Citizens' influence over construction plans occurs during environmental studies and final design. During construction, communication with the public focuses on information programs to make citizens aware of construction activities such as road closures or detours. residents and businesses adjacent to the construction zone should be consulted for input into the maintenance of traffic and access to property plans.

Phase # 5: Construction

PRACTITIONER'S ROLE

What are the responsibilities of the transportation professional during this phase of a project's life?

- Provide quality control and quality assurance to ensure the contractor is delivering the require product in accordance with contract plans and specifications
- Verify the contractor is performing properly and certifying proper reimbursement to the contractor
- Certify that a project is proceeding in accordance with Federal Guidelines and policies
- Ensure and certify that commitments promised to communities, individuals, and resource agencies have been kept and departmental policies and standards are upheld
- Consult with adjacent businesses and residents to minimize disruption during the construction period

Professional Disciplines:

- Engineers
- Project Managers
- Construction Managers
- Construction Inspectors

PROCESS EVALUATION QUESTIONS

How well does the decision-making process address the transportation context at this phase?

Does the construction process follow-through on commitments made during earlier phases, including those reached through collaboration with citizens and other practitioners?

Have environmental stewardship processes, procedures and standard operating procedures been integrated into all construction processes and procedures?

Phase # 5: Construction

CONTEXT DEFINITION QUESTIONS

What types of questions should be asked in defining the transportation context at this phase?

The questions listed under the first four phases of the life of a transportation project should allow practitioners to develop a robust understanding of the transportation context within a region. The policies, plans, and programs, as well as the Final Design context information gathered during Phase #4 should serve as a valuable resource to the practitioners involved in later phases of a transportation project.

Beyond the overall context and community values information that should be available from earlier phases there are context questions related to interface with the overall community and impacted businesses and residents that are specific to the Construction Phase. As with Phases #3 and 4 context questions during Construction should be tailored to the specific characteristics of the project. Construction practitioners can also use the Context Definition Tools resources to help identify project specific context definition questions. The Construction Context Definition questions provided below represent only a starting point for practitioners. Actual questions should be developed based on the context of the project with the goal of treating the community and impacted business and residents as valued customers. Information about construction progress and issues should be readily available and kept up-to-date. Construction should be conducted with the minimum disruption to communities and adjacent businesses and residents as possible.

Built Environment & Mobility

- Does the maintaining traffic plan accommodate all types of movement in the project area (cars, transit, bicycles and pedestrian)? Have accommodations been made for accessibility for people with disabilities (for example, bus stops, cross walk etc are accessible for wheelchairs, ADA compliant signals operation is not disrupted)?
- Does the traffic signage to manage traffic flow through the construction zone clear for all users (cars, transit, bicycles and pedestrians)?
- Are travelers, citizens and affected business owners and residents kept up-to-date on construction progress, detours, changes in access?

Natural Environment & Resources

- Have adequate provisions been implemented to protect protected resources and sensitive natural features during construction?

Economy, Housing, Education, Social/Cultural

- Have the construction staging, maintaining traffic and access management plans considered and mitigated to the greatest extent possible negative impacts businesses, residents, schools and social/cultural gathering places for the duration of the construction?

Public Health & Safety

- Have the construction staging, maintaining traffic and access management plans been implemented to maintain and protect the safe travel of all users during the full duration of the construction period?
- Did construction staging and maintaining traffic plans consider potential negative impact on air quality from construction equipment and traffic congestion?
- Have efforts been made to minimize airborne dust during construction?

Phase # 6: Operations & Maintenance

PURPOSE <i>Why is this phase important?</i>	<p><u>Purpose for Operations:</u> To reduce highway congestion through better operations of the highway network. To operate the transportation system so that it:</p> <ul style="list-style-type: none">• Mitigates non-recurring congestion• Reduces recurring congestion• Improve day-to-day operations• Streamlines freight operations• Responds to emergencies <p><u>Purpose for Maintenance:</u> Implement a planned maintenance program and respond to needs, breakdowns, repairs, and emergencies as situations arise. Manage and improve the condition of the pavement, bridges and appurtenances and to ensure the structural integrity and cost effectiveness of the transportation system. Avoid safety problems caused by damage to or obstacles on the transportation system, from potholes and deerkill to rockslides.</p> <p>Most DOTs now utilize Transportation Asset Management (TAM) programs to find efficiencies in managing the life-cycle costs of maintaining roads, bridges, tunnels, rails, and roadside features. As defined by the AASHTO Subcommittee on Asset Management, "TAM is a strategic and systematic process of operating, maintaining, upgrading, and expanding physical assets effectively through their life cycle. It focuses on business and engineering practices for resource allocation and utilization, with the objective of better decision-making based upon quality information and well defined objectives."</p>
KEY DECISION-MAKERS <i>Who makes and influences the decisions?</i>	<p>For Operations:</p> <p><u>FHWA:</u> Through their Office of Operations, provides national leadership for the management and operations of the surface transportation system</p> <p><u>National Transportation Operations Coalition (NTOC):</u> Serves as the foundation for institutionalizing management and operations into the transportation industry</p> <p><u>State DOT, MPO, and local government officials:</u> Implement specific management and operations procedure</p> <p>For Maintenance:</p> <p><u>FHWA:</u> through the Transportation System Preservation program</p> <p><u>State DOTs:</u> Region/District Maintenance Managers</p> <p><u>City or County DOT or public works departments</u></p>

Phase # 6: Operations & Maintenance

<p>KEY DECISION-MAKING DRIVERS</p> <p><i>What key considerations drive the decisions?</i></p>	<p>For Operations:</p> <ul style="list-style-type: none"> • Where does congestion tend to occur, and what are the causes? • Can operation of the system be improved through DOT action (e.g. signal timing, ramp metering, incident management)? • How should the DOT manage the system in the face of large influxes of traffic from planned events or emergencies? • Do the planned operations meet the direction and policies as provided in the Transportation Reauthorization Acts? • Have the existing or proposed operations for maintaining and improving existing capacity and reducing delays been considered when developing the construction program? • Have the State DOTs , MPOs, and local public agencies as part of the decision making process for implementation and programming operation systems and efforts considered the impact on the budgets, results of management systems, effectiveness, cost versus benefits (reduction in delay), legal issues, research, technological advancements and availability, and maintenance of the systems? • What are the performance measures used when considering changes to operations? • Do the performance measures include crash rates, mobility goals, and economic conditions? <p>For Maintenance:</p> <ul style="list-style-type: none"> • What budget is left after responding to critical safety priorities for which the DOT is responsible (e.g. snow removal, emergency repairs, road and sign visibility and functioning)? • What are the DOT's maintenance policy priorities? What is public opinion about these priorities (e.g. pavement condition and condition of roadsides and rest areas in the state)? • What stakeholders are affected by the proposed maintenance project, program or activity? • What are the sources of funding? (state or local revenues, federal funding, tolls, etc) • Are state/local budgets for maintenance stable, rising, or falling?
<p>DECISIONS MADE</p> <p><i>What decisions are made?</i></p>	<p>For Operations:</p> <ul style="list-style-type: none"> • Determine the transportation problems that can be addressed by operational changes (e.g. signal timing, lane reassignment, etc). • Utilize existing guidelines from FHWA and the Manual on Uniform Traffic Control Devices (MUTCD) to determine what type of remedy is appropriate. FHWA establishes national policies, recommendations, and research for operational procedures as part of their short and long term programs. <p>For Maintenance:</p> <ul style="list-style-type: none"> • State or local Boards of transportation establish an annual or biannual maintenance or (asset management) budget • State or local DOT management establishes a priority policy or level of service standard • Specific items of work are programmed by the regional/district/county maintenance management • Maintenance manuals provide guidance on the performance of a maintenance tasks

Phase # 6: Operations & Maintenance

<p>PRODUCTS AND PROGRAMS</p> <p><i>What are the final products of this phase and when are they finalized?</i></p>	<p>For Operations</p> <ul style="list-style-type: none"> For FHWA the final products in operations are national policies, regulations, technical guidance, manuals, public information literature, NHI courses, demonstration projects, case studies, freight data bases, and national standards such as the ITS Architecture that was fully implemented in 2005. Products are developed and improved upon on a continuous basis. Products for State DOTs, MPOs, and local public agencies include various operation transportation projects. They include but are not limited to: regional architecture and operations infrastructure deployments (often networks of signal and monitoring systems); emergency evacuation procedures and exercises; communication systems; management systems; traveler and weather information systems, and traffic control centers and projects. Projects are initiated, built and improved upon on a continuous basis and usually included in the funded transportation program of TIPs and STIPs. <p>For Maintenance:</p> <ul style="list-style-type: none"> Preventive maintenance and repair of existing transportation facilities (bridge, tunnel, highway, street, turn lane, traffic signal, etc.) Some state DOTs and local government public works departments issue maintenance reports or performance measures, such as: <ul style="list-style-type: none"> Caltrans Roadway Maintenance Division: http://www.dot.ca.gov/hq/maint/roadway.htm Washington State Maintenance and Operations Division: http://www.wsdot.wa.gov/Maintenance/
<p>CITIZEN'S ROLE</p> <p><i>How can a citizen influence this phase of a project's life?</i></p>	<p>For Operations:</p> <ul style="list-style-type: none"> Citizens may get involved on the national level by commenting during the development of future regulations concerning operations, being informed about operations alternatives to construction, and by contacting their representatives during the development of the Reauthorization Acts (every 5 to 7 years) to advocate for their preferred transportation programming priorities. For involvement with State DOTs, MPOs, and local public agencies, citizen involvement in operations projects may take place as part of the public involvement programs during the development of the transportation plans, STIPs, and TIPs. At the larger system planning level, citizens would provide input into the implementation and programming of large regional systems such as incident management and traffic control systems. At the project level, citizens would provide input for corridor or specific projects during the public hearing process. <p>For Maintenance:</p> <p>Citizens can influence:</p> <ul style="list-style-type: none"> The policy makers to establish project priorities and address one needed action before another Identification of collaborative and citizen volunteer actions in the corridor, such as installation and maintenance of bird houses (NYSDOT), bat boxes (TxDOT), or wetland enhancement (PennDOT) The policy makers to establish priorities in Maintenance and implement policies to take other agency plans (e.g. State Wildlife Action Plans) into consideration in designing and conducting maintenance. Which projects get attention by reporting maintenance needs to their local city/county or state (depending on road ownership) department of transportation

Phase # 6: Operations & Maintenance

<p>PRACTITIONER'S ROLE</p> <p><i>What are the responsibilities of the transportation professional during this phase of a project's life?</i></p>	<p>For Operations:</p> <ul style="list-style-type: none"> • The role of the practitioner is to ensure that all the various operational alternatives have been considered for implementation at the region-wide, corridor, and the local project level. The practitioner must consider the effectiveness of the proposed operations project and the impacts it may have on the traveling public as well as the community as a whole. <p><u>Professional Disciplines for Operations:</u></p> <ul style="list-style-type: none"> • Traffic Operations Engineers and Technicians • Traffic Management Center Communications Specialists • Emergency Management Staff • Roadway Assistance Personnel • Intelligent Transportation Systems (ITS) Specialists • Land Use Planners <p>For Maintenance:</p> <ul style="list-style-type: none"> • Identify community or environmental enhancements and stewardship opportunities in the corridor (e.g. enhancement of fishing access, view pull-offs, fishing access, erosion repair, species protection) • Ensure compliance with all environmental laws, standards, and commitments • Manage the maintenance program to establish a safe environment for workers and the traveling public • Establish a list of necessary repairs and compare them to the established program priorities • Provide quality control and quality assurance to ensure the maintenance personnel or contractors are delivering the required product in accordance with plans and specifications • Verify the repairs are performed properly and report required data accordingly for financial management purposes (man-hours, equipment usage, material usage) • Evaluate the project in terms of the extent to which it solves the problem and achieves the vision <p><u>Professional Disciplines for Maintenance:</u></p> <ul style="list-style-type: none"> • Engineer • Project Manager • Traffic Operations Engineers • Maintenance Staff
<p>PROCESS EVALUATION QUESTIONS</p> <p><i>How well does the decision-making process address the transportation context at this phase?</i></p>	<p>Does the operations and maintenance process follow-through on commitments made during earlier phases, including those reached through collaboration with citizens and other practitioners?</p> <p>Is decision-making in the operations and maintenance phase tied back to the policies developed in Phase 1, related to community context and needs?</p> <p>Are there processes in place to allow for community and citizen input in the operations and maintenance decision-making process?</p> <p>Have environmental stewardship processes, procedures and standard operating procedures been integrated into all operations and maintenance programs and activities?</p>

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<p>CONTEXT DEFINITION</p> <p>QUESTIONS</p> <p><i>What types of questions should be asked in defining the transportation context at this phase?</i></p>	<p>The questions listed under the previous phases of the life of a transportation project should allow practitioners to develop a robust understanding of the transportation context within a region. The policies, plans, and programs developed in these project development phases should serve as a valuable resource during the operations and maintenance phase.</p> <p>In addition to the questions provided for the previous phases, there are several context-defining questions that are specific to the operations and maintenance phase. The questions below are provided as a starting point for defining context during this phase.</p> <ul style="list-style-type: none">• Are there any environmental or social/cultural features that could be adversely affected by operations or maintenance activities? Have mitigation or avoidance measures been identified in these areas?• Will operations or maintenance activities have impacts on transportation in the area, including access for residents and businesses and the mobility of through-travelers?• Have citizens or other stakeholders identified potential operations or maintenance issues?
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